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[Amendment 1]
[Document to be Amended] Specification
[Item to be Amended] Claims
[Method of Amendment] Change
[Contents of Amendment]
[Claims]
[Claim 1] An event creating device comprising:

display means having setting areas respectively for different plural types of events along a time axis displayed on a display screen;

setting means for setting, in any of the setting areas, an event start indication and an event end indication at positions corresponding to their time, the event start indication and the event

end indication respectively representing a start and an end of a desired type of event corresponding to the area; and

storage means for storing event data including a start time and an end time of the events set by the setting means.

[Claim 2] An event creating device comprising:

display means having setting areas respectively for different plural types of events along a time axis displayed on a display screen;

setting means for setting, in any of the setting areas, event start indications and an all event end indication at positions corresponding to their time, the event start indications representing a start of desired types of events corresponding to the area, and the all event end indication representing an end of all the set events; and

storage means for storing event data including a start time and an end time of the events set by the setting means.

[Amendment 2]

[Document to be Amended] Specification

[Item to be Amended] [0008]

[Method of Amendment] Change

[Contents of Amendment]

[0008]

[Means for Solving the Problem]

In order to achieve the foregoing object, a first aspect of the present invention comprises: display means having setting areas respectively for different plural types of events along a time axis displayed on a display screen; setting means for setting, in any of the setting areas, an event start indication and an event end indication at positions corresponding to their time, the event start indication and the event end indication respectively representing a start and an end of a desired type of event corresponding to the area; and storage means for storing event data including a start

time and an end time of the events set by the setting means.

[Amendment 3]
[Document to be Amended] Specification
[Item to be Amended] [0009]
[Method of Amendment] Change
[Contents of Amendment]
[0009]

A second aspect of the present invention comprises: display means having setting areas respectively for different plural types of events along a time axis displayed on a display screen; setting means for setting, in any of the setting areas, event start indications and an all event end indication at positions corresponding to their time, the event start indications representing a start of desired types of events corresponding to the area, and the all event end indication representing an end of all the set events; and storage means for storing event data including a start time and an end time of the events set by the setting means.

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(57) [ABSTRACT]

[Object] A device to eliminate unnecessary rows OR/AND columns and generate an output when outputting multiple data arrayed on matrices.

[Constitution] A data column processor device for outputting multiple data arrayed on matrices wherein a matrix is made and data input into boxes designated by row positions and column positions, and these generated matrices are searched for rows and columns containing no input data, and those rows and columns with no data are deleted to generate a compression matrix.

[0011]

[Mode for Carrying out the Invention]

The embodiments of the present invention are described next while referring to the accompanying drawings. FIG. 1 is a block diagram showing the structure of the data column processor device of the present embodiment. As shown in FIG. 1, the data column processor device is comprised of a computer 10, an internal memory 12, a display 14, a printer 16, a keyboard (or mouse) 18, a floppy disk device (FD) 20, a CD-ROM device 22, a hard disk (HD) device 24, and a communication interface 26.

[0012]

The computer 10 is the main unit of the data column processor device. The computer 10 contains a CPU and an internal memory 12, etc. The CPU for implementing the data column processor device functions in compliance with the program stored in the internal memory 12. In other words, the computer 10 implements a matrix generator function to create a matrix and input the desired data into boxes designated by a row position and a column position. The computer 10 also implements a compression matrix generator function for deleting rows and columns where data was not inputted in the matrix generated by the matrix generator function and generating a compression matrix.

[0013]

The internal memory 12 stores the programs and data, etc. The program within the internal memory 12 contains a data column processor program 12a for outputting multiple data arrays in a matrix state. A compression flag 12b, a source table data 12c and compression table data 12d are stored in the internal memory 12 for executing the data column processing.

[0014]

The display 14 is comprised, for example, of a liquid crystal display. The display 14 is controlled by the computer 10 and displays a source table (matrix) based on the source table data 12c stored in the internal memory 12, and a compression table (compression matrix) based on the compression table data 12d stored in the internal memory 12.

[0015]

The printer 16 prints the table or compression table under control of the computer 10. The keyboard 18 enters data and commands for the computer 10. An expand/contract button is installed on the keyboard 18 for entering commands for either the source table (matrix) or the compression table (compression matrix) as outputs for printing or display. The expand/contract button may also be an icon that is also selectable from the screen display.

[0016]

The floppy disk device (FD) 20 reads and writes programs and data on a floppy disk under control of the computer 10. A program loaded from the floppy disk by the floppy disk device 20 is stored in the internal memory 12 of the computer 10 and is executed by the CPU.

[0017]

The CD-ROM device 22 loads data and programs recorded on the CD-ROM under the control of the computer 10. The program loaded from the CD-ROM by the CD-ROM device 22 is stored in the internal memory 12 of the computer 10 and is executed by the CPU.

[0018]

The hard disk (HD) device 24 reads and writes programs and data on the hard disk under the control of the computer 10. The stored data contains data such as the table data 24a generated by data column processor device.

[0019]

The communication interface 26 is an interface for exchanging communication data with external information devices. The operation of the data column processor device of the present embodiment is described next.

[0020]

The computer 10 inputs data entered from the keyboard 18 in the matrix arrays into a matrix according to the data column processor program 12a stored in the internal memory 12.

[0021]

In other words, the computer 10 creates a table (matrix) for example of rows (row numbers 1, 2, 3) or columns (column numbers A, B, C, D) according to optional instructions as shown in FIG. 3A; and enters data in boxes specified by the row number and column number. The

example in FIG. 3A, shows data entered into the boxes "A1" "A3" "B3" "D3".

[0022]

The computer 10 stores data for the generated table (matrix) containing items for the rows or columns, as the source table data 12c into the internal memory 12 along with the data entered in the boxes.

[0023]

A source table (matrix) appears on the display 14 based on the source table data 12c stored in the internal memory 12 (or the source table (matrix) is printed based on the source table data 12c, when a print command is sent to the printer 16).

[0024]

Next, when the table (matrix) as shown in FIG. 3 has been made, the operation when data column processing was commanded by operating the expand/contract buttons on keyboard 18 is shown while referring to the flow chart in FIG. 2.

[0025]

Operating the expand/contract buttons installed on the keyboard 18 expands or contracts (compression command) the table (matrix). The computer 10 determines if the compression flag 12b stored in the internal memory 12 is off or not, according to the commands inputted by the expand/contract buttons (step S1).

[0026]

A compression flag 12b set to the off state indicates that the source table (matrix) has been compressed to form the compression table (compression matrix) and is outputted.

[0027]

However, when the compression flag 12b was not set to the off state (or in other words is on), the computer 10 specifies the beginning column (column number) of the source table data 12c stored in the internal memory 12 (step S2).

[0028]

The computer 10 decides whether or not data was entered in the specified column number boxes (step S3). If data has been entered in any of the boxes, then the next column is specified (step S6) and

a decision is made in the same way on whether or not data was entered (step S3). If there is absolutely no data in any of the boxes of the specified columns, then the computer 10 stores the column numbers of those columns in the internal memory 12 (step S4). The above processing is repeated for all columns including the final column. As a result of this processing, column numbers of those columns containing no data are stored in the internal memory 12.

[0029]

When finished processing all columns, the computer 10 specifies the beginning row of the table (row number) on the source table data 12c stored in the internal memory 12 (step S18).

[0030]

The computer 10 decides whether or not data was entered in the specified row number boxes (step S7). When there is data here entered in any of the boxes, the next row is specified (step S10) and the computer 10 decides in the same way whether or not data was entered (step S7). If there is absolutely no data in any of the boxes of the specified rows, then the computer 10 stores the row numbers of those rows in the internal memory 12 (step S8). The above processing is repeated for all rows including the final row. As a result of this processing, row numbers of those rows containing no data are stored in the internal memory 12.

[0031]

In the example shown in the table (matrix) in FIG. 3A, the row number 2 is stored since there is no data entered in any of the boxes of row number 2. The row number C is also stored since there is no data entered in any of the boxes of column number C.

[0032]

The computer 10 next generates the compression table data 12d by deleting the rows or columns corresponding to the stored column numbers and row numbers from the source table data 12c and stores the compression table data 12d separately from the source table data 12c in the internal memory 12 (steps S11, S12).

[0033]

The computer 10 then sets the compression flag 12b of internal memory 12 to OFF (step S13) to show that the compression table (compression

matrix) was generated and outputted.

[0034]

Instead of showing the source table (matrix) on the display 14, the computer 10 displays the compression table (compression matrix) based on the compression table data 12d stored in the internal memory 12. (The compression table (compression matrix) is printed out based on the compression table data 12d, if a print command was sent to the printer 16.)

[0035]

FIG. 3B shows an example of the compression table generated from the source table shown in FIG. 3A. As revealed in FIG. 3B, this is a compression matrix wherein rows and columns not containing boxes inputted with data have been deleted.

[0036]

A command from the expand/contract buttons outputs the compression table (compression matrix), however the source table data 12c of the source table (matrix) is still stored in the internal memory 12.

[0037]

The operation, using the expand/contract buttons installed on the keyboard 18 to command (restore command) to expand or contract the table (matrix) while the compression table (compression matrix) is displayed, is described next.

[0038]

In this case, the computer 10 decides whether or not the compression flag 12b stored in the internal memory 12 is in the off state, from a command inputted by operating the expand/contract buttons (step S1).

[0039]

A compression flag 12b in the off state indicates that a compression table (compression matrix) was generated from the source table (matrix) and outputted. A command made with the expand/contract buttons therefore indicates a command to return to output of the source table (matrix).

[0040]

Along with deleting the compression table data 12d stored in the internal memory 12 (step S15), the computer 10 sets the compression

flag 12b of internal memory 12 to the on state to show that the source table (matrix) was outputted (step S16).

[0041]

Instead of displaying the compression table (compression matrix) on the display 14, the computer 10 displays the source table (matrix) based on the source table data 12c remaining in the internal memory 12. (Or the source table (matrix) is printed based on the source table data 12c, when a print command was sent to the printer 16).

[0042]

Rows or columns not entered with data are therefore deleted as unnecessary rows or columns, and a compression matrix is generated and outputted for printing or display in this way just by a command made with the expand/contract buttons on the keyboard 18. Consequently, the task of deleting unnecessary items from the matrix and generating a new matrix is not required.

[0043]

In a state where the compression matrix is outputted, the source table (matrix) can once again easily be outputted with just a command from the expand/contract buttons by utilizing the source table data 12c still stored in the internal memory 2.

[0044]

In the above described embodiment, the compression table data 12d was deleted by a command from the expand/contract buttons while the compression display was shown, however this data may instead be stored unchanged. Therefore, instead of having to generate the compression table data 12d again, this stored compression table data 12d can be utilized when a command is again made from the expand/contract buttons, and data has not been entered in the rows or columns that were deleted last time in the source table (matrix).

[0045]

The above description utilized a simple table as shown in FIG. 3, however the invention is not limited to a table and may utilize a dialog box output that handles matrices as shown in FIG. 4.

[0046]

The dialog box shown in FIG. 4 holds a matrix containing multiple rows and columns with items in each row/column. There is no need

to enter data in all of the empty boxes in the row/column histogram. Data need only be entered in the required items.

[0047]

Besides command buttons required for data column processing (OK, Cancel, Help, Row Deletion, Row Insertion, etc.) the dialog box also contains expand/contract buttons.

[0048]

There are columns in the matrix of the dialog box as shown in FIG. 4A, where all the boxes are empty (such as each columns for items under the product code and product name in the Item Name section).

[0049]

Here, when the user moves the mouse pointer to the expand/contract buttons with the mouse 18 and clicks the mouse 18 (or keyboard buttons) as needed, just the columns of empty boxes are hidden as shown in FIG. 4B, and the horizontal size of the dialog box is shortened.

[0050]

A user wishing to enter data in the box of a column on the hidden display as shown in FIG. 4B, again moves the mouse pointer to the expand/contract buttons and clicks the mouse to return to the original dialog box state shown in FIG. 4A.

[0051]

In this state, data might be entered in any boxes of columns with all blank boxes such as the product code under the item name. Here, by again moving the mouse pointer to the expand/contract buttons and clicking the mouse, as shown in FIG. 5, a dialog box appears containing a compression matrix in which a column of newly entered data remains.

[0052]

To close this dialog box or in other words, to end the data column processing and save the data as table data 24a, the user clicks the OK button regardless of whether the matrix contained in the dialog box is compressed or not.

[0053]

Storing the data showing the state of the compression flag 12b along with source table data or compression table data matching that flag state into the hard disk device 24 as table data 24a, again opens the dialog box. In other words, when the table data is loaded for

data column processing, the status when data is stored as the table data 24a can be output according to data indicating the state of compression flag 12b.

[0054]

The above explanation only described a dialog box containing a compression matrix with the columns deleted. However, the dialog box may also be a compression matrix with the rows deleted. The dialog box may be a matrix with only those rows and columns with blank boxes not required for output deleted. Further, the overall dialog box size can also be changed according to the deleted rows or columns.

[0055]

The user can in this way hide for example those sections not required for display, and can show a display with a compressed dialog box just by a command made with the expand/contract buttons as needed. The user can also if needed switch to a display showing the source matrix containing all the rows and columns.

[0056]

A display (output) of this type allows easily searching for the necessary items, since items columns or rows containing no data entries can be set as non-output (hidden display) items and items holding data entries can be checked visually.

[0057]

The size of the dialog box can also be changed by varying the number of rows or columns in the matrix for easily recognizing whether all items (rows/columns) are outputted or only items (rows/columns) containing data entries are outputted. Changing the overall dialog box also maintains the neat appearance of the dialog box itself.

[0058]

Switching to a dialog box containing a matrix made up of all the rows and columns, or switching to a dialog box containing a matrix made up only of rows and columns where data has been entered, improves the operability, since the source matrix can easily be retrieved and new data entries can be made in the blank boxes even after the matrix was compressed.

[0059]

[Effect of the Invention]

The present invention as described above, renders the effect that operability is enhanced since there is no need to delete unnecessary items from the matrix and newly generate a matrix because a compression matrix is generated wherein rows or columns with no data entries are deleted as unnecessary rows and columns.

FIG. 1

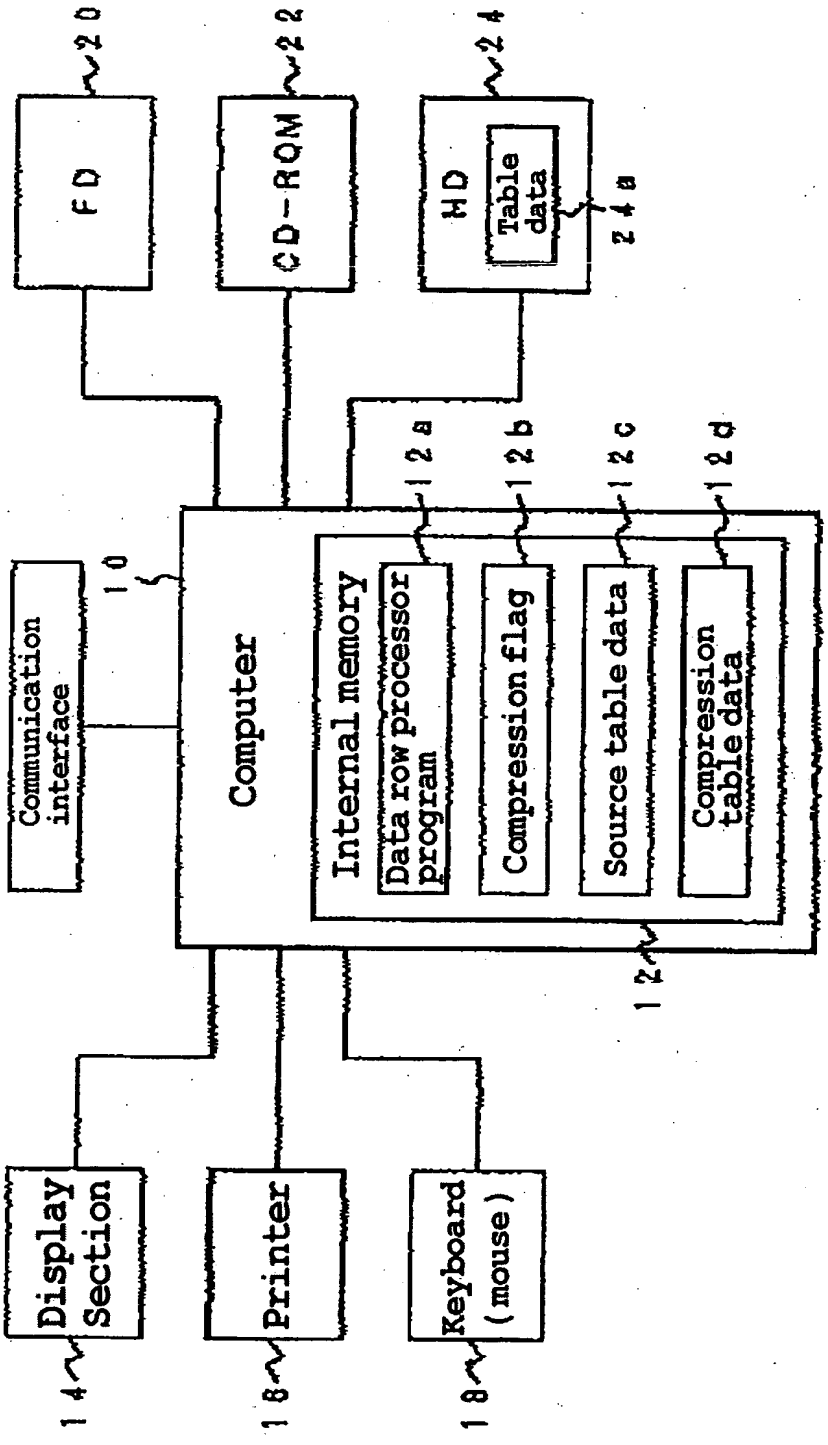
FD
20
CD-ROM
22
HD
24
Table data
24a
Communication interface
10
Computer
12a
12b
12c
12d
Internal memory
Data row processor program
Compression flag
Source table data
Compression table data
12
Display Section
14
Printer
16
Keyboard (mouse)
18

FIG. 2

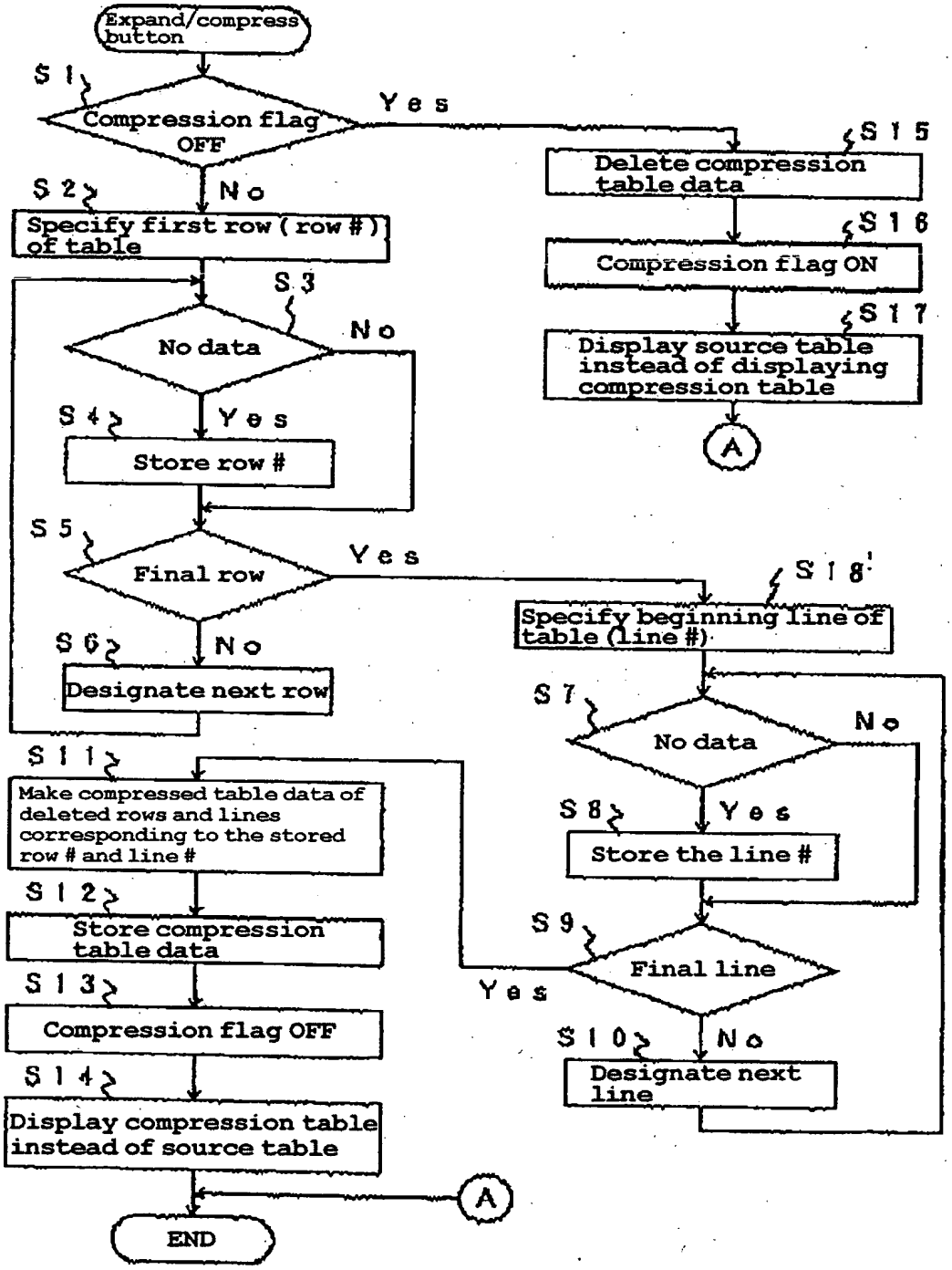
Expand/compress button
S1
Compression flag OFF
Yes
No
S15
Delete compression table data
S16
Compression flag ON
S17
Display source table instead of displaying compression table
A
S2
Specify first row (row #) of table
S3
No data
No
Yes
S4
Store row #
S5
Final row
Yes
No
S6
Designate next row
S18
Specify beginning line of table (line #)
S7
No data
No
Yes
S8
Store the line #
S9
Final line
Yes
No
S10
Designate next line
S11
Make compressed table data of deleted rows and lines corresponding to the stored row # and line #
S12
Store compression table data
S13
Compression flag OFF
S14
Display compression table instead of source table
A
END

FIG. 3

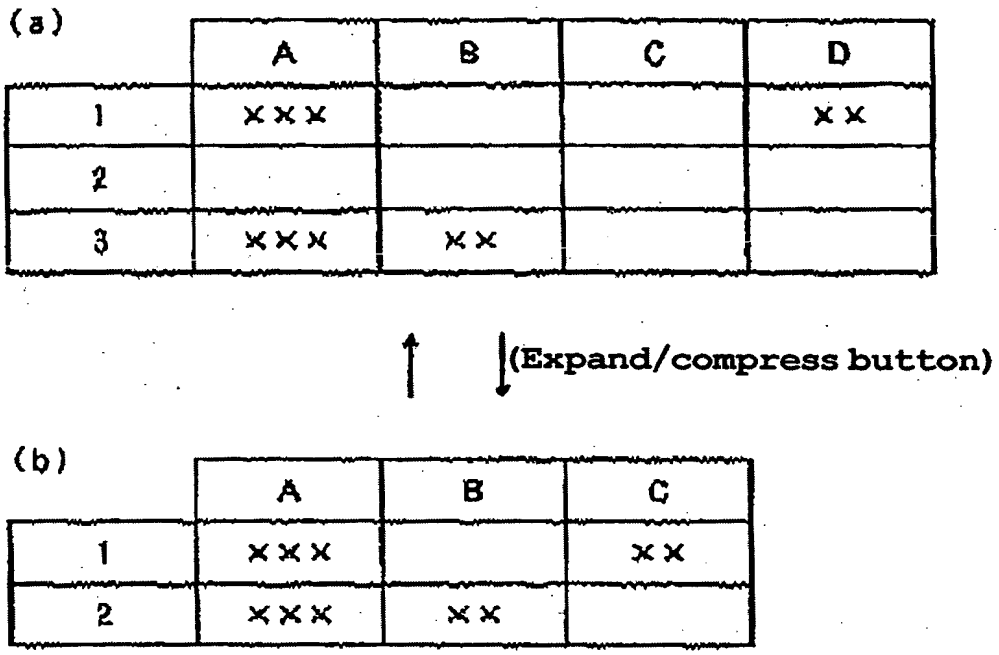

FIG. 4

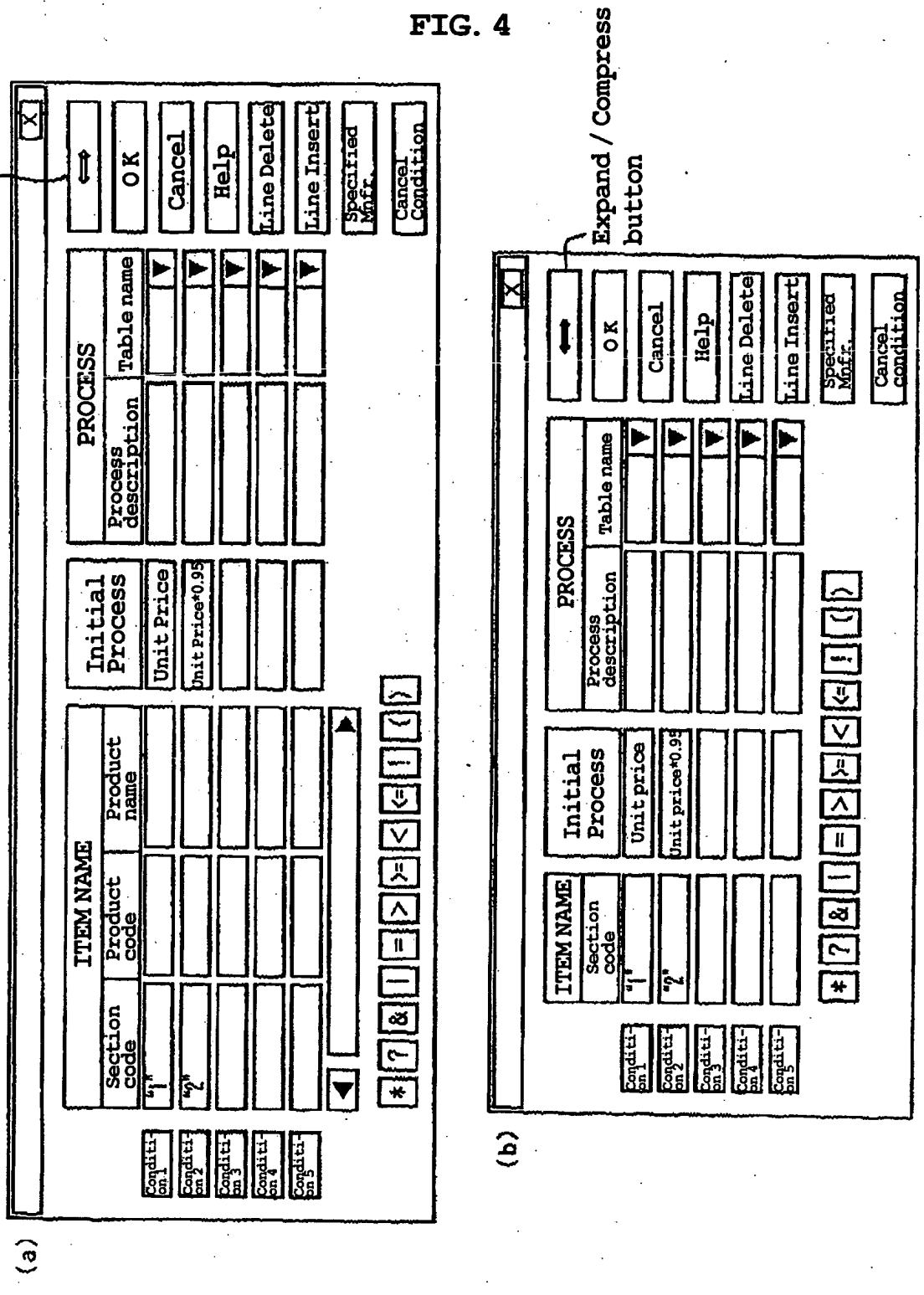
Expand / Compress button
(a)
ITEM NAME
Section code
Product code
Product name
Initial Process
Unit Price
Unit Price*0.95
PROCESS
Process description
Table name
OK
Cancel
Help
Line Delete
Line Insert
Specified Mnfr.
Cancel Condition
Condition 1
Condition 2
Condition 3
Condition 4
Condition 5
"1"
"2"
(b)
Expand / Compress button
Unit price
Unit price*0.95
Cancel condition

FIG. 5

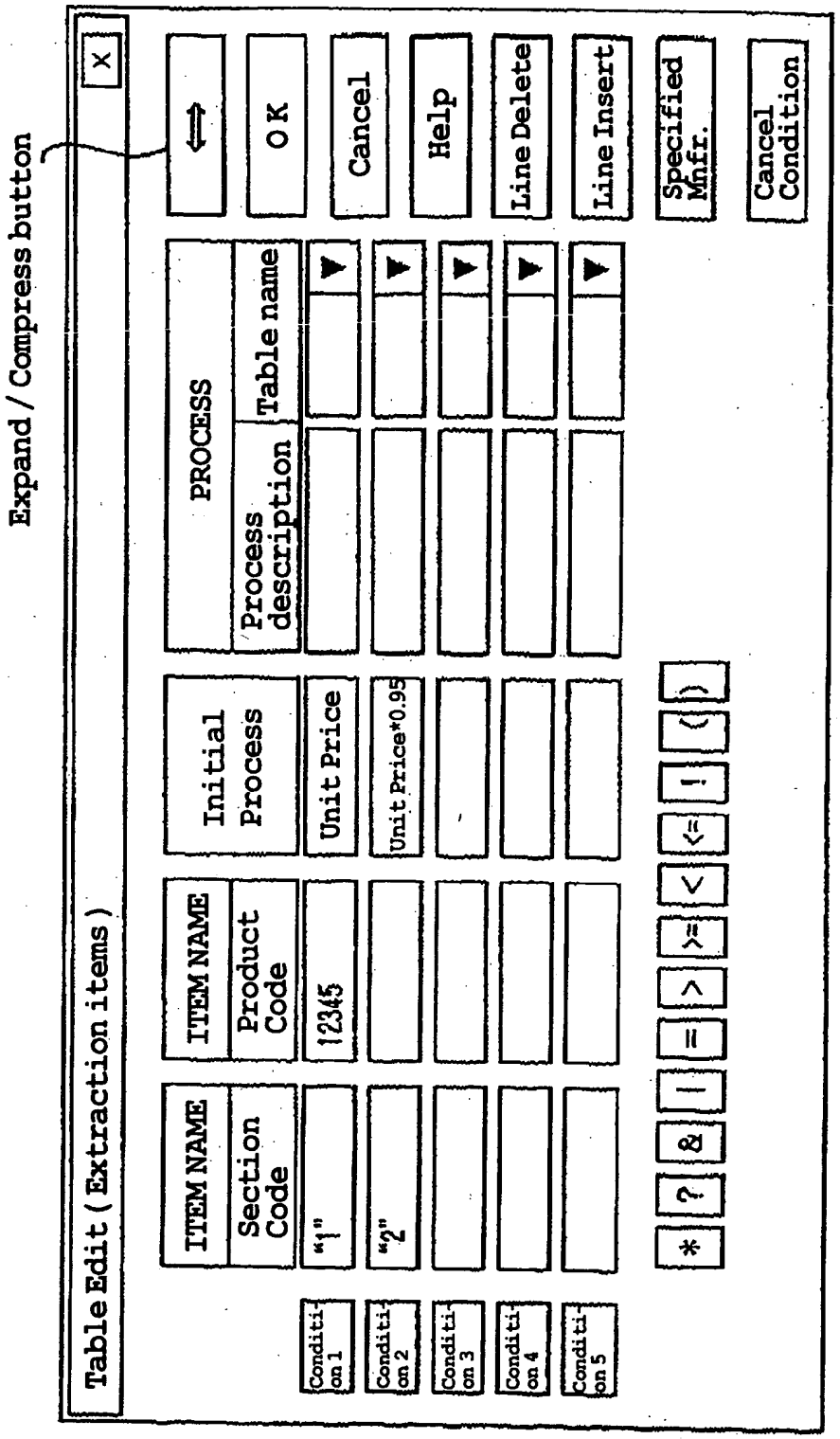
Table Edit (Extraction items)
X
Expand / Compress button
ITEM NAME
Section Code
ITEM NAME
Product Code
Initial Process
PROCESS
Process description
Table name
OK
Cancel
Help
Line Delete
Line Insert
Specified Mnfr.
Cancel Condition
Condition 1
Condition 2
Condition 3
Condition 4
Condition 5
"1"
"2"
12345
Unit Price
Unit Price*0.95
* ? & | = > >= < <= ! ( )